

Table 5-3
Containment Area Alternative 2B Cost Estimate
RCRA Multilayer Cap, Institutional Controls, Groundwater Containment, and Gas Monitoring
Investigation Area H1
Mare Island, Vallejo, California

	Quantity	Unit	Unit Price	Cost	Source/Subtotal	COMMENTS
Administration						
Home Office Administration and Support	1	LS	\$ 950,000	\$ 950,000	Engineer's Estimate	
Field Office Administration and Support	1	LS	\$ 2,370,000	\$ 2,370,000	Engineer's Estimate	
Engineering Design/Consulting	1	LS	\$ 2,750,000	\$ 2,750,000	Engineer's Estimate	
					\$ 6,070,000	
Mobilization						
Mobilization and Site Preparation	1	LS	\$ 35,000	\$ 35,000	Engineer's Estimate	20 equipment operators/site workers, per diem, vehicles and fuel
Equipment Staging	1	LS	\$ 90,000	\$ 90,000	Engineer's Estimate	20 equipment operators/site workers, per diem, vehicles and fuel Equipment for five phases of work.
					\$ 125,000	
Pre-Construction						
Background - Pre-Construction	1	LS	\$ 31,000	\$ 31,000	Engineer's Estimate	
Perimeter Air Monitoring - Construction	1	LS	\$ 145,000	\$ 145,000	Engineer's Estimate	
Erosion Control Measures	1	LS	\$ 53,000	\$ 53,000	Engineer's Estimate	
Initial Site Cleaning	75	AC	\$ 630	\$ 46,935	Engineer's Estimate	
Pre & Const Ops. Train, PPE, Med. Monitoring	1	LS	\$ 287,000	\$ 287,000	Engineer's Estimate	
					\$ 563,000	
Landfill Soil Foundation						
Subgrade Preparation (Labor)	660	HR	\$ 960	\$ 633,600	Engineer's Estimate	Crew rate based on 8 equipment operators/site workers
Subgrade Preparation (Equipment)	660	HR	\$ 544	\$ 359,040	Engineer's Estimate	Equipment rate based on 3 scrapers (CAT 623), compactor (CAT 815F), grader (CAT 14G), water truck and fuel
Subgrade Preparation (General Fill)	100,000	CY	\$ 3.50	\$ 350,000	Vendor Quote	Assumes 100,000 cubic yards for subgrade fill after hot spot consolidation
					\$ 1,343,000	

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RCRA Equivalent Subtitle C Landfill Cap Construction								
Gas Collection System								
Installation of 200 mil Geonet (Labor)	887	HR	\$	1,500	\$	1,330,500	Engineer's Estimate	Crew rate based on 20 equipment operators/site workers
Installation of 200 mil Geonet (Equipment)	887	HR	\$	225	\$	199,575	Engineer's Estimate	Equipment rate based on 5 trucks, backhoe (CAT 446), gradeall (CAT 10k lb), loader (CAT 996) and fuel
Geonet materials: 6X6 comp	3,408,589	SF	\$	0.30	\$	1,022,577	Vendor Quote	Composite-6ozX200mX2S
Landfill Gas Vents	16	EA	\$	2,600	\$	41,600	Engineer's Estimate	
Clay Liner								
Geonet materials: GCL	3,408,589	SF	\$	0.38	\$	1,295,264	Vendor Quote	Geosynthetic Clay Liner (GCL)
Installation of liner (Labor)	1,200	HR	\$	1,405	\$	1,686,000	Engineer's Estimate	Crew rate based on 19 equipment operators/site workers
Installation of liner (Equipment)	1,200	HR	\$	210	\$	252,000	Engineer's Estimate	Equipment rate based on 5 Trucks, backhoe (CAT 446), gradeall (CAT 10k lb), loader (CAT 996) and fuel
Liner materials: HDPE liner	3,408,589	SF	\$	0.34	\$	1,158,920	Vendor Quote	60 mil smooth HDPE
Drainage Layer								
Liner materials: 6X6 Comp	3,408,589	SF	\$	0.25	\$	852,147	Vendor Quote	60ozx200mx1S
Miscellaneous Materials	1	LS	\$	22,000	\$	22,000	Engineer's Estimate	Sand bags, visquene, bentonite, welding rods, etc.
Final Inspection	1	LS	\$	9,000	\$	9,000	Engineer's Estimate	
						\$	7,870,000	

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Landfill Vegetative Cover Soil Construction							
Cap Construction Soil Layer (Labor)	440	HR	\$	1,328	\$	584,100	Engineer's Estimate
Cap Construction Soil Layer (Equipment)	440	HR	\$	760	\$	334,400	Engineer's Estimate
Cap Construction Soil Layer (Select Fill)	58,000	CY	\$	5.60	\$	324,800	Vendor Quote
Seeding	72	AC	\$	2,800	\$	201,600	Vendor Quote
						\$	1,445,000
Wetland Excavation/Consolidation/Creation (8.25 acres)							
Wetland Work (Labor)	220	HR	\$	545	\$	119,900	Engineer's Estimate
Wetland Work (Equipment)	220	HR	\$	395	\$	86,900	Engineer's Estimate
Select Fill	10,000	CY	\$	5.60	\$	56,000	Vendor Quote
Soil Testing	1	LS	\$	16,800	\$	16,800	Vendor Quote
Wetland Consultants	1	LS	\$	168,000	\$	168,000	Vendor Quote
SMHM Trap/Consulting	1	LS	\$	78,400	\$	78,400	Vendor Quote
Seed/Plant Collecting	1	LS	\$	84,000	\$	84,000	Engineer's Estimate
Seed/Plant Installation	1	LS	\$	28,000	\$	28,000	Engineer's Estimate
						\$	638,000
Institutional Controls							
Permanent Site Access Fencing	1	LS	\$	118,000	\$	118,000	
						\$	118,000
Plans							
Post-Closure Plan	1	LS	\$	50,000	\$	50,000	
						\$	50,000

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O&M Costs							
Monitoring Well Install/Mod/Maintenance	1	LS	\$	221,000	\$	221,000	Already conducted during Summer 2005 22 wells installed, 48 wells abandoned
Five Years O&M Quarterly Monitoring	5	YR	\$	221,000	\$	1,105,000	Years 1 to 5 O&M (includes labor, analytical services) Based on Weston's 2005 WQ SAP
Long Term O&M Quarterly Monitoring	25	YR	\$	221,000	\$	5,525,000	\$3,848,000*
Five Years Groundwater/Leachate Management	4,175,000	GL	\$	0.03	\$	125,250	Years 6 to 30 O&M (includes labor, analytical services) NPV Based on Weston's 2005 WQ SAP
Long Term Groundwater/Leachate Management	20,875,000	GL	\$	0.03	\$	626,250	Years 1 to 5 (labor, analytical and disposal)
Predator Control/Trapping	30	YR	\$	10,000	\$	300,000	Years 6 to 30 (labor, analytical and disposal)
Regulatory Oversight	8	YR	\$	50,000	\$	400,000	Predator control - bating and trapping
Regulatory Oversight	22	YR	\$	20,000	\$	440,000	Years 1, 2, 5, 10, 15, 20, 25, 30
					\$	7,066,000	Years 3, 4, 6-9, 11-14, 16-19, 21-24, 26-29
Report Sub-Total					\$	25,288,000	
25% contingency					\$	6,322,000	
Installation of containment barrier					\$	2,390,000	Cost of installed vertical barrier
Report Total					\$	34,000,000	

Costs provided for construction activities if conducted in 2006

Long Term O&M are not adjusted for inflation

* NPV: Net Present Value (3%)